

D 202.13: 37/10



# approach



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**A**t a safety standdown, our squadron took a look at some recent mishaps, both USAF and Navy. How is it that a pilot with thousands of hours can stall his aircraft in the landing pattern? How can two experienced crews, with thousands of hours in type, go out on a gorgeous day and have a fatal midair?

As our discussion continued, it became apparent that, despite the experience level in our ready room, we were also prone to the same type of mishaps.

When was the last time you briefed, executed, and debriefed a complete by-the-book stall series? "Stall series?" you ask. "Are you kidding? I did one back in the FRS. It wasn't much fun, but you see it was on the gradesheet and the instructor insisted on it." OK, so going out in your super-speed sled and doing stalls isn't high on your list.

During an otherwise uneventful brief for an SSC hop in the Arabian Gulf, I decided to spice things up a bit and suggested we actually do a stall series. I stuck a finger at my right-seater and asked him to walk me through the procedures for a clean stall.

"Um, err-r, well, we'll have to be clean..."

OK, so this was off to a hot start. When he finished mumbling, and we had agreed on the procedures, I pointed to the next victim and asked for dirty-stall procedures.

"Well-l, I'd recommend slowing to 250 and dropping the gear."

At the end of the brief, an ECMO who was a guest from another crew asked me an interesting question.

"Are you always that rough on your guys?" Rough? Was he serious?

I asked them to go through the procedures for a simple stall, one clean, one dirty. The fact that they couldn't had me concerned. Just how much help was my right-seater going to be if I stalled the beast at the 90 today?

We launched, completed our tasking, and actually had some fuel left for another 10 minutes of....stalls. Decel, roll off, spool-up times, angle-of-attack, altitude lost—all became learning points for four intrepid aviators. Our debrief actually had enlightening and interesting information. We became the geeks of the

ready room, yet we had gone where no man had been for a heck of a long time.

Two weeks later, the weekly airplan came out and it was fairly obvious that it would be a quiet week for us Prowler guys. The fighters would be busy doing their thing and so would the attack guys. That left us with a week of missions to come up with. A quick look at the training qualifications and a little voice left over from the safety standdown decreed that we would spend the week doing formation work.

Shortly after our first brief, one of our Hornet brethren came down to our ready room and asked about this "form" mission we had scheduled. I can still hear him laughing. Formation work? Was I serious? Yep, we would spend the whole week doing formation work.

However, this was not your ordinary fleet-formation stuff. It would be by-the-book FRS-quality formation flying. By the end of the first night, we all agreed that we were doing some good work out there.

Breakup and rendezvous practice, TAC form, cruise positioning, section approaches—we flew them all, day and night. The first night, several crews returned with comments like, "Wow! It's been a while since I've done that! I'm pretty rusty." Rusty on this stuff? Come on. You're a fleet guy. This stuff should be old hat...shouldn't it?

By the end of the week, concepts like acute and sucked came back, as did ways to correct for them. Light triangles, dirty-up signals, VFR-IFR parade, missed-approach positioning, cross turns, and cross-under techniques became the latest rage. Heck, now we had a whole ready room full of geeks. Or did we? Although I could still hear our fighter bud's laugh, I don't think the laugh was on us anymore.

Sure, you can go out and beat up on your adversary in the MOA. Sure, you can do the best barrel roll in the squadron. However, what happens when you depart the plane in the landing pattern? How was your last rendezvous? By-the-book, or I-got-aboard?

LCdr. DuBois is an EA-6B pilot with VAQ-140.



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INCORRECT ISSUE NUMBER, SHOULD READ NUMBER 10.



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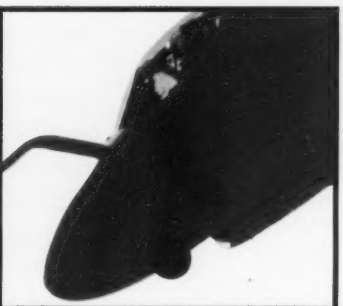
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# My Pilot is Making *a Glass* Out of Himself!

By Lt. Thomas M. Vlasic

Usually you have to be prompted to really think about certain emergencies. After all, they will never happen to you. Unfortunately, it isn't exactly "never."

One night my trusty A-6 was turning onto GCA final when I heard a small thump about the time we were going dirty. It was not until we saw the background lights of the field in front of us that I realized there was something on my windscreen. We had hit a small bird. With incontrovertible proof that birds do fly at night I realized that I was not immune to their wanderings. This caused me to ponder my birdstrike procedures a little deeper—which helped me out within a few weeks.

It was a nice day to fly a visual low-level and drop some practice ordnance. About a half hour into the low-level, I looked down at my chart, then heard a loud thump and felt something hit my left shoulder. About the same time, the aircraft pitched up and left. I looked up and saw my windscreen was completely shattered with a fist-size hole near the top. The pilot had seen a large flock of birds just in time to initiate a pull to miss most of them.

We checked for any abnormal engine indications, continued our climb and decelerated. We turned toward a divert field 60 miles away, squawked emergency and started to assess our situation. Everything seemed to be working except the TACAN, which had an off-flag (we realized later that a chunk of glass had hit the MAL/TACAN circuit-breaker gangbar). Initially, we could not contact anyone on guard, so I switched to a local center frequency. I immediately heard them giving vectors to other aircraft "to avoid the aircraft squawking emergency" (I always wondered if that worked).

After contacting center and telling them where we were going, we started going through damaged-aircraft procedures, including slow flight. To complicate matters, the left generator fell off-line and the pilot complained of glass in his shorts!

The cockpit was covered with so much ground glass that we had to wipe off the instruments to read them, but even with the hole in the windscreen, we did not experience as much noise or wind blast as I thought we would have.



## To complicate matters, the left generator fell off-line and the pilot complained of glass in his shorts!

We were able to reset the generator as we set up for a straight-in to our divert field's 13,500-foot runway. We decided we would shut down the right engine on touchdown to keep the chunks of windscreen from FODing the engine. I passed this information on to the tower and also said we might lose our radios on rollout if our left generator fell off line again.

We landed as briefed—including the left generator dying on touchdown—taxied clear of the runway and shut down the left engine. Now the only problem was to get the canopy open. The canopy seal would not deflate and without normal hydraulics, the canopy was stuck closed (a

problem for A-6s that shut down with the canopy closed).

There we sat until the emergency crew passed a large screwdriver through the hole in the windscreen and we were able to pry the canopy open enough to deflate the seal.

Because of my previous birdstrike, I had recently gone over my procedures in depth. I always wear my mask with my visor down, a habit that kept me from eating a lot of glass. When I returned to home base I realized that things had gone a little easier because I had recently studied the procedures. Now, whenever I brief a hop I try to find one our two things that I have not gone over recently and brief them in detail.

Since this incident, I have encountered yet another bird on a low-level route and am well on way to becoming a "bird-ace"!

Lt. Vlasic is a BN with VA-145.

# Pilot Tie-Down

By Lt. F.C. Louviere

**T**he mission was night FCLPs with more pilots than planes to bounce with—standard practice. The weather at the outlying field was estimated 800 broken, with the cloud layer extending through the entire pattern of 1,200 feet to 2,000 feet. Our aircraft made a precision approach to a full stop, and dropped off the pilots riding in the back.

I was one of the passengers, waiting in the LSO shack, watching my other classmates go around and around the pattern. It seemed like it would take forever. By the time my turn came, I would lose any edge I might have had and

maybe grow some grey hairs.

I remembered the first time I saw a night-lit carrier box in a previous practice period. It was an eye-opener and kind of a festive, Christmas set-up. We had all read and heard about night carrier landings many times before and shuddered at the thought. I could not believe we were actually practicing for it, yet there we were.

About 30 minutes passed. Finally, an aircraft called the tower for a full stop. The runway lights lit up and they were cleared to land. It was my chance to get into the pattern and on the ball. After the long walk from the LSO shack to the plane, I kicked my classmate out, revved up the motor, walked that big monster onto the runway and peeled out. We were

on the takeoff roll.

School had begun. I happened to be flying with a lieutenant commander that day, thinking how lucky I was not to be flying in one of the other planes with the skipper. Flying this tight pattern was hard enough. Flying with instructors was always stressful, getting every movement you made graded. Woops! You sneezed. A "below."

Rolling down the runway and reaching liftoff speed, I pulled the stick back. Well, I tried to but nothing happened. The stick would not move. Flustered and surprised, I pulled back with all I







Photos by PH1 Chuck Dutkiewicz

## ...after shutting down the engines, I tried to get out of my seat but couldn't.

had, trimming nose-up. We were airborne.

Roll control was great, but fore and aft (pitch) stick movements were hard. I didn't feel the stick grabbing.

The instructor immediately assumed that it was not cockpit FOD and told me so. He'd felt binding controls because of FOD before and this time, it didn't feel like a FOD problem. Because of the high stick forces and the binding, with full stick deflection available, I thought he was right. I immediately thought we were in a hydraulic flight-control disconnect (EFCS) in only the pitch configu-

ration.

We followed NATOPS, remained dirty, and diverted. On deck after shutting down the engines, I tried to get out of my seat but couldn't. I was tied to the FOD, which was lodged under my seat and in the controls. It was my regulation flashlight, which was secured to my SV2 flotation device. It had fallen underneath the seat during the external crew switch. Lowering my seat while taxiing in position for takeoff was all that was needed to lodge the flashlight in tightly.

Maintenance crews find food wrappers, washers, cotter keys,

screws that have worked their way loose, flight gear pilots leave in the aircraft, and even money. How would you like to have change lodged in your throttle quadrant?

Tying little objects to big objects, such as equipment to your body or ink pens to kneeboards, is smart when you are aware of them falling. You just grab the little string and pull whatever it is back up. Recovering fallen objects in the cockpit has stopped or delayed many missions. Lanyards on your equipment may at a minimum save you a lot of time, but they aren't the answer to all FOD problems.

Lt. Louviere is an S-3 pilot with VS-38.

# The John Wayne Break

By Lt. Mike Sadler

"310, Boss, your signal is buster."

I thought I would be the last guy in the squadron to forget my landing checklist, but ....

"310, Boss, what's your position?"

"We're at 30 miles, Boss."

"Your signal is buster. We've got a Hummer with an emergency and we've got to take him last."

"310, wilco."

I was the flight lead for a section of two Hornets on CAP. We were last for the recovery because of a requirement for on-station relief.

"Boss, we're five miles astern now."

I looked at the airspeed—550 knots!

"Never sampled this edge of the envelope before," I thought.

The pattern was empty as CAT I inertia lured me into breaking at the bow! That is what you're supposed to do, isn't it? I tried to think ahead of the airplane and decided to break at 600 feet vice 800 so I wouldn't have to descend to the 180.

I planned to bleed as much airspeed as possible in the turn, anticipating about 300 knots at the 180. I'd probably get the gear down at the 90.

I kissed off my wingman, who happened to be the CO. Wap! Lots of G available. I was at the 180 in a hurry and looking at what I expected, about 300 knots. At the 90 the gear were in transit and I was holding the speedbrake out to override the auto retract. I crossed the wake with 190 knots and about 60 degrees angle of bank. But something didn't feel right. I chalked it up to the excess airspeed. I kept it coming.

In the groove I make my last airspeed check—165 knots, on speed. CAT I inertia said I was committed now, but I still felt like something was wrong.

As soon as I trapped, I realize what I've forgotten—the flaps. I hit the wires at about 165 knots instead of the normal 138. Luckily, the airplane was OK and the wire held. The Hornet's auto flaps with increasing AOA had prevented a stall or departure off the 180.

As I slowed down, the flaps automatically programmed, but only to about 15 degrees trailing edge down. If I had put the flap switch to full, I would have gotten the required 45 degrees.

The LSOs couldn't see much difference in the aircraft attitude or speed until it was too late. They also didn't notice the position of the flaps or that my speedbrake was still extended (the speedbrake retracts when the flap switch is moved from auto to one-half or full).

The adage "John Wayne in the break, Slim Pickens in the groove" still applies. Next time the Boss says buster, I'll have a better plan.

Lt. Sadler is a F/A-18 pilot with VFA-83.

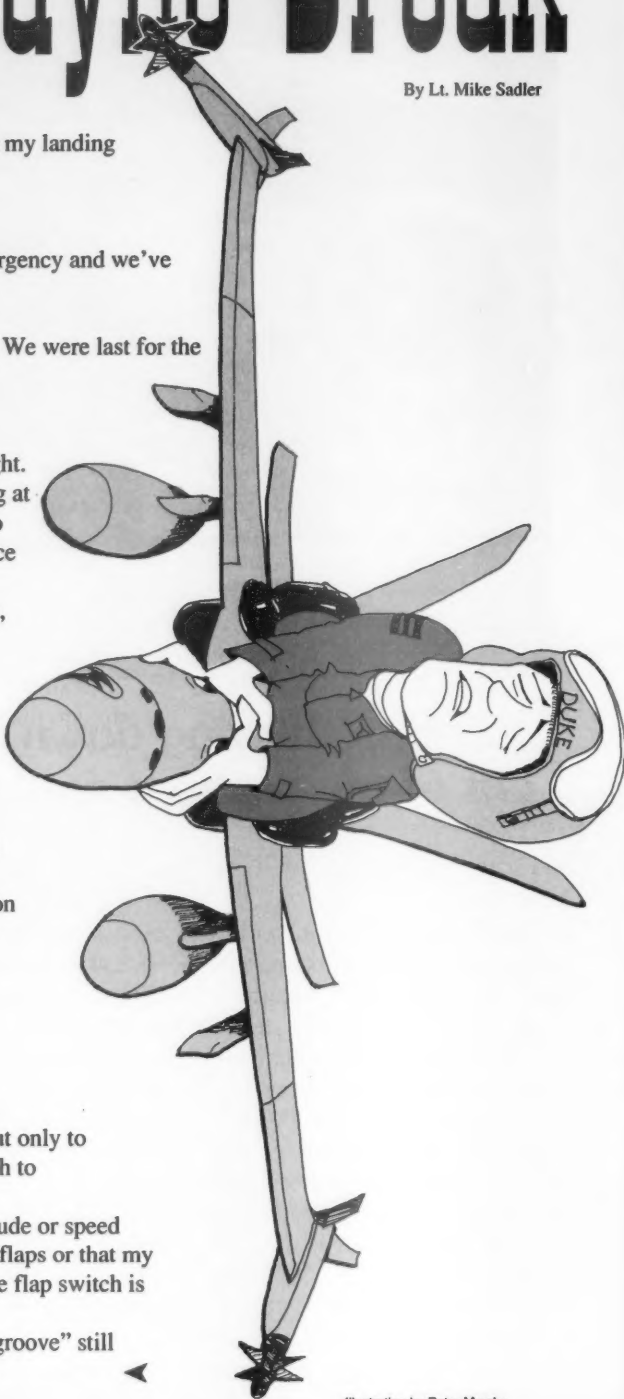


Illustration by Peter Mersky



# Running the Gauntlet

By Lt. Kurt H. Statts

Lt. Joseph E. Higgins

Although I was a junior officer on one of my first at-sea periods, I felt adventurous. Surely, I was salty enough to find my jet in the darkness without help from my sea-daddy pilot. Like any aircrewman, I thought night flying was tedious, but catapult shots and landings terrified me at times. On this night, however, I would learn the hazards of merely walking to my jet.

As I entered the port catwalk, my ear passed 10 inches from the 5MC. At that moment, the Air Boss blasted me with, "Heads up on deck. Landing Red Lion 612, spot four."

"Hmmm, I wonder where spot four is," I muttered, as I tried to unscramble my brain. I soon found out. Helo rotor wash sent me clambering. After tripping over all the hoses in the catwalk, I dove down a ladder to the O3 level, seeking shelter from the helo's thunder and storm. Then I found a passageway leading to ladder to the starboard catwalk.

When I got to the top step of the ladder, I slid down three steps. A bruised elbow later, I caught myself.

"What's next?" I wondered. I shone my flashlight on the top step and found a pool of hydraulic fluid, but no nonskid.

I finally reached the flight deck and started wandering among the F-14s behind the island, looking for 107.

"Whoa!" I bellowed, when I caught my foot in a tie-down chain. Before I could gain my balance, I fell against the fin of a Sparrow missile. While I cursed, my nearby squadronmates laughed at me. Luckily, my helmet took the blow; I only bruised my pride.

Continuing the search for 107, I walked behind an E-2 just

as its props started humming loudly.

"Nothin' doin'," I thought, as I gave the props a respectful clearance. I felt rushed now, because "starts" would take place in five minutes.

Dashing up the center of the flight deck, I didn't see the safety guys behind a KA-6 parked nose-in to the island. The jet exhaust fried me as I walked through it.

"This just isn't my night," I muttered with jet-fume tears in my eyes.

After turning my back to the exhaust, I walked sideways toward the bow.

"Yipes," I screamed suddenly, as a madman on a tow tractor raced toward me with no lights on. He missed me by three or four feet. I really doubted I would get to my jet alive.

At last I found 107 headed aft; people were in the middle of re-spotting it. I immediately started my preflight. Moments later, the jet slid to a stop. A yellowshirt jumped me, explaining that I wasn't allowed near the landing gear while the jet was moving. I apologized and contemplated the skid marks. "My foot could have looked like those marks," I thought.

Suddenly, the 3-wire snapped into place after a tow tractor ran over it. I screamed and jumped, though I was never in danger. By now, I was such a nervous wreck I couldn't help over-reacting.

Finally, my pilot appeared, and I felt safe. We armed our ejection seats and prepared to hurtle into the darkness. I had survived the gauntlet.

Lt. Statts is a RIO with VF-11.



By Lt. Joe Clark and Lt. Michael Wallace

**T**he date marked the halfway point of the cruise almost to the day. We taxied into the shuttle, did a quick wipeout and launched. We were working in the central Med and both of us were dreading the upcoming two-hour CAP. The majority of these missions consisted of hanging on the blades to save enough gas for a 1 v 1 just before recovery. We were talking about what we would be doing in the next port when the master caution light started blinking.

I lazily looked down to the master

caution panel, thinking that it was a little early for the bingo light. I saw HYD PRESS. It took a moment for this to sink in. I snapped my head in the direction of the hydraulic gauges. The combined system (the F-14's primary hydraulics) had gone from fully operational to zero pressure.

I told my RIO, whose initial response was "Yeah, right." It took a lot of insistence on my part to convince him I wasn't kidding. We were both in the mid-cruise, bulletproof mode.

Fortunately, our CAP station was overhead the CV so we could spend most of our time dealing with the emergency and not navigation. At the same time we were sorting out our problem, another section from the squadron was doing tactical comm on base radio in a 2 v 2. With tower dialed in, a flight on base radio, and ICS chatter, the information from all directions was overwhelming.

When we declared our problem to all concerned, the radios again be-



came crowded, this time with people wanting to help. It was time to tell everyone to stand by and let us delegate responsibilities.

We told the boss we wanted to land ASAP, but it was 45 minutes before the next launch. The fantail was packed with airplanes. The Boss assumed we could wait; we assumed he knew we couldn't. If the flight hydraulics failed, the F-14's backup module has had a zero success rate for CV recoveries.

I found myself asking my RIO "what if's" faster than he could look them up, and we made our first really intelligent choice. We let our wingmen research the bingo figures for all the possible final configurations. We had both made a wrong assumption: if the gauge reads zero then all of the fluid must be gone. If the rep had not prompted me on button 14, I wouldn't even have considered trying to manually extend the refueling probe. Because of the trapped fluid in that part of the system, all it took was five strokes of the hand pump and the probe came right out. This also circulated fluid throughout the combined system and began banging the engine-driven pump.

About 15 minutes after first noticing the hydraulic failure, we had all procedures completed and were comfortable with our contingency plans if the problem became more complicated. We went to 10 miles behind the ship to set up for a straight-in when the Boss called us down.

We lowered the gear by the emergency-actuation system, but while the main mounts came down normally, the nose gear stayed barberpoled. We started looking up the unsafe-nosegear landing procedures when it finally locked into

place about a minute later. Our wingman later told us that it took almost 45 seconds for the nose gear to come out of the wheel well after the main mounts.

The new fluid in the system that had been trapped in the landing gear lines caused the hydraulics to stabilize around 2,500 psi (3,000 psi being normal), which enabled us to extend our main flaps. We were now

***We had both  
made a wrong  
assumption:  
if the gauge  
reads zero then  
all of the fluid  
must be gone.***

ready for our approach, 10 miles aft and on centerline when the ship turned 180 degrees into the wind. We hadn't thought about that.

We were now 20 miles from where we wanted to be. We decided it would be better to just hold overhead and make a teardrop approach when the time came. The Boss had also decided to wait until the cycle

launched before taking us, 45 minutes after we initially requested to land ASAP. The urgency of our situation had never gotten through to the right people.

Our final configuration was three down and locked, main flaps down, boards in, no DLC and probe out. Finally, nearly an hour after our first indication of a problem, we trapped with an OK 3-wire.

Lessons learned from this hair-raising episode? A few things. The pilot needs to talk to reps directly rather than relaying information through the RIO. This reduces the RIO's workload, minimizes miscommunication, and helps the pilot keep his cool. Also, the RIO needs to have enough knowledge of the PCL to be able to paraphrase the notes, warnings and cautions. Reading verbatim from NATOPS will go in one ear and out the other.

There's no substitute for a solid working knowledge of all aircraft systems, and this only comes from routinely reviewing NATOPS. In an emergency such as a major hydraulic failure, the contingencies and what-ifs encompass nearly every procedure in the book.

Delegate contingency tasking to available personnel, and make sure they know to recite it only when called upon. Bingo-fuel figures, unsafe-gear procedures and various configurations for landing approach speeds are all things that can be assigned to external resources if they are available. This, however, can lead to information saturation, especially in multi-place, multi-radio aircraft. Crew coordination has to be as precise as Swiss timing. The senior aircrew needs to take charge and forget amenities. ◀

Lt. Clark and Lt. Wallace are a first-tour pilot and RIO, flying F-14Bs with VF-142.

**M**y knees were still shaking as I reflected on how close we came to losing an airplane. I still couldn't see through the windscreen because of the heavy ice. Unfortunately, I could see the tattered leading edges of the wings also sealed in a clear layer of ice.

It had started out as such a great flight. Although there was only a bright glow emanating from the high haze at 15,000 feet, it was clear enough to make a few runs down Fallon's EW range before continuing our flight to NAS North Island. Our Prowler was looking as good as an EA-6B could that day (which, of course, is pretty good) since it had been prepped to be craned on board a carrier for a CARGRU change of command.

After thoroughly wringing out the aircraft and the rest of my crew on two military power runs down the range, we checked out with Desert Control and picked up our clearance to North Island. "Roger, cleared as filed. Climb and maintain FL 200".

Passing through 15,000 feet we checked that the anti-ice was on as we penetrated the smooth air of the milk bowl overhead. A couple of moments later, as we leveled

off, visibility still obscured, we hit it.

The cockpit darkened as our Prowler was overcome by a wave of turbulence, ice and hail. It was so violent that I immediately shrunk down in my seat; I was sure the windscreen would shatter under the barrage of hail. It sounded like someone was shooting ball bearings at the aircraft. Occasionally, a large hailstone struck the glass, producing a bullet-size hole in the glare of ice covering the windscreen which was quickly filled in again by ice. My instrument scan quickly reverted to what we called in the training command the "disaster scan".

I anxiously watched the engine instruments, looking for FOD, flameout or some kind of decay. ECMO-1, reading my mind, got on the radio and asked for an immediate climb to higher altitude because of hail and icing. No response. He repeated his request, now a demand . . . static. I had already begun climbing during the first radio call, feeling I would be lucky to survive with only a flight violation.

We approached 1,000 feet before our level-off altitude, with no response on the radio. I reached for the

IFF to start the counter-clockwise twist to EMER. It was difficult to admit what our "great flight" had decayed to in a matter of only 60 seconds. As I found the knob, a broken center cleared us to FL 260, and I withdrew my hand, as if that would make the emergency go away. As we hit 24,000 feet, what had been my most violent flight since spinning in the T-2 ended as quickly as it had begun.

The top of the deck was as solid and smooth as a plate of glass with an unbroken blue sky over it. As we started to wonder how we had hit such violent weather in such an innocuous-looking layer, the answer became clear in our review mirrors. Towering at least a mile above the layer at our dead six was the top of a thunderstorm, its anvil head blown flat by the jetstream. We had flown straight through it.

We leveled off and discussed what we should do. The engines



miraculously seemed to be running smoothly. The windscreen was still completely iced over, but we could see some damage had been done to the leading edges on the wings. Most apparent was the "speed tape" which appeared to be missing or shredded, frozen in time by a layer of ice still clinging to the wings. If our wings had that much ice, then our engine cowlings had to be in a similar condition.

I chose to continue on to North Island, hoping the ice would melt. A descent to the warm air of Fallon could be catastrophic. During the next hour of flight we had time to review what had happened.

We wanted to blame the incident on bad luck. Why else would we have flown through the center of an imbedded thunderstorm with such accuracy it seemed like we had used radar. Besides, our radar wasn't on.

With our direct launch into the EW range at Fallon, we had never switched it out of the standby mode that is used for takeoff. In the rapid transition from the low-level environment to the airways nav mode, we just never got around to it. Unfortunately, no checklist requires the radar to be on, just common sense; on this day, we apparently left that on deck.

We landed uneventfully in San Diego, the ice vaporizing at altitude as expected. I was less than anxious to get out of the aircraft and do a postflight, especially with the "Wow, what happened to you" look on our plane captain's face.

The telltale radiation symbol on the radome was gone as was most of the paint. The leading edge of the "foot-ball" on the vertical stab had a hole in it. All leading edges of the wings and pylon stations were nearly stripped of their speed tape, and were peppered with small holes and soft spots. Later inspection revealed a soft spot in the radome as well.

We decided that our Prowler would not dress the flight deck for this change of command.

Luckily, the engines escaped any damage. With the skills of our airframers, plenty of fiberglass, and the lack of any damage to the engines, this incident escaped classification as a mishap and merely became the most costly lesson I have learned. In the 600 hours I have accumulated since, I have never taken off without having the radar switched on, once safely and comfortably airborne. I have never flown through a thunderstorm again.

Lt. Iovine is an EA-6B pilot now assigned to VX-5.

# Through Hail and Back

By Lt. Jeffery Iovine

11



**M**y flight was my first TAC Form-Section Low Level in the FRS. We planned it to be an out-and-in from Whidbey to Fairchild AFB for a quick turn with MOA work on the way. We'd do the low-level on the RTB. The only changes to the brief were the MOA times. We were now splitting the 1.5-hour block with another FRS hop. Our section was slated for the first 45 minutes.

Time ran out in the MOA even though we had been in the air for less than an hour. I joined up and flew wing for the quick turn and some lunch at Fairchild. We hadn't burned much gas so we would be fat. Good deal; less OPTAR burned per hop. We calculated gross weight to be within limits for a normal landing. The approach speed would be about 129 knots.

AFB Approach cleared us for the straight-in, so we split the flight up for separation on the runway. The winds were light and variable at four knots. The sea-level runway was more than 10,000 feet with arresting gear at both ends, just in case. The field had a standard Air Force VASI system for glide slope, but I knew how to fly it. I kept it red over white all the way to touchdown, just like I had learned.

I jumped on the brakes and initially tried to stop in 7,000 feet. It wasn't happening, so I took it to the end. (Back at Whidbey, the runway is 8,000 so it seemed likely that I could stop it in seven).

At the end I cleared the duty and taxied to the transient line.

12 The contract lineman chocked me and cleared me to shut down both engines.

As I took off my gear I noticed the lineman pointing at my left mainmount. When I took my helmet off I could hear the hissing. I released the parking brake and cleared everyone out. The fuse plug in the tire melted and I watched helplessly as my left main

tire deflated. I was really glad to see the nine fire trucks loaded with guys in silver suits come out to welcome me aboard.

What happened? My left brake melted together because I set the parking brake; the tire deflated because I smoked the brakes. I'm not sure in which order this happened.

Why did it happen? A little preflight planning and a better contingency brief would have gone a long way in this instance. It turns out that Fairchild's runways run slightly downhill from south to north. The VASI glide slope intercepts the runway more than 1,000 feet from the approach end. I tried to get off after 7,000 feet but that really equated to 6,000 feet—not easily accomplished in an airplane that is landing at max gross weight.

Tower did not tell me about possible gusty tailwinds on final, and also forgot to tell us about the other EA-6B that landed one hour before with a blown tire on the rollout, or about the DC-8 that came in between our Prowlers and also ended up with hot brakes after landing. All of these events were evidence that aircraft were landing with a tailwind and that the tower should have changed the duty runway.

All of this was unfortunate, but the biggest mistake of all was caused by 100-percent pilot error. With less than 50 hours in type, an FRS pilot is likely to do whatever a line guy tells him to do. We never made a brake check. If we had, the problem may never have escalated as much as it did.

The near fatal mistake came when I shut down the engines. The EA-6B vents excess fuel from a manifold in the belly on engine shutdown. The fuel dumps out dangerously close to white-hot brakes and could have been colorful if the wind had not been in our favor. We never debriefed this mistake and we only realized it during a later conversation.

Lt. Vela is an EA-6B pilot with VAQ-140.

# Hot Brakes

By Lt. Oscar Vela





My BN and I  
congratulated  
ourselves on  
our awesome  
fly-by...

Peter Marsky

Just to

# Impress the Troops

By Lt. Bruce Miller

**F**ive months down, one to go. Today, a Thai low-level, tomorrow, inport Pattaya. The cruise routine was familiar and I was confident in my abilities. I had paid special attention to low-level maneuvering during workups. By the end of the cruise, fly-bys were becoming more common.

The pointy-nosed jets came by low and fast, ignited their afterburners, and put on a decent display for the troops before looking for a tanker. I sat on deck thinking that except for the burners, a 10-degree-per-second turn rate, and about 50 knots, my trusty Intruder was as impressive as the twin-tail jets and had more personality.

The low-level was right out of the Vietnam War. I was aggressive along the route, maneuvering the aircraft to avoid imaginary air defenses. Going feet wet, I was filled with adrenaline and could imagine the relief and satisfaction of aircrews returning from combat.

We returned overhead with a little extra gas and 15 minutes before the next launch. I asked my BN to request a fly-by and got the clearance. I briefed him and proceeded 10 miles behind the ship. I wanted max knots to make sure everyone on the flight deck was aware of our venerable A-6's performance.

I set the radalt at 180 feet (10 percent below minimum altitude). At about one mile, I got a quick LAWS tone, bumped the altitude back up to 200 feet, and rolled hard into a five-G level turn. After 90 degrees of turn, I snapped back to wings level and climbed to the overhead holding pattern. My BN and I congratulated ourselves on our awesome fly-by, came into the break, and got an OK pass. What a flight: worldwide low-level navigation, exotic ports, and carrier

landings.

My heart just about jumped through my chest when I got to the ready room and saw the note on the board. "No more fly-bys UFN. One of our planes nearly equalled the record." It was written in the skipper's familiar hand. The SDO told us that the CO wanted to see us in his stateroom.

We entered and he said, "I was just trying to figure out how I would explain to your wives why their husbands were dead!"

He saw us from the tower as we came in low and fast, and wrapped up into a hard turn until the last 10-15 degrees when the nose started to slice. The Boss grabbed for the radio just as I leveled the wings and started climbing. The people in the tower thought I had scared myself, causing the pull-up.

Actually, I had just reached the 90 degrees of turn that I had planned for. I never perceived the nose slice and was convinced I was level for the entire turn. My BN had just joined us in our last port. It was his sixth flight with the squadron and his first fly-by.

Fly-bys are intended as morale boosters for the troops. Most of them don't know about the difficulties involved in making a low-altitude level turn. A climbing 4G to 5G turn has the same impact without the danger. I went beyond the main purpose of the fly-by, and endangered two lives and an aircraft. A month before the end of the cruise is not the time to send two body bags home. Ironically, the day before our fly-by was our squadron's 11-year mishap-free anniversary.

Lt. Miller is an A-6 pilot with VA-165.

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As a senior first-tour BN, I was crewed with a nugget pilot fresh out of the FRS. We had just returned from Fallon where my pilot and I had fine-tuned our crew coordination. Although we had not experienced an emergency, I was confident we would be able to handle it.

It was a Friday and we were scheduled for day FCLPs at the field. It was going to be great: two quick periods, a hot switch with another crew, and then off to the club for happy hour.

We walked to maintenance control to read the book. Nothing out of the ordinary but what did catch my eye was an up-gripe on oil in the port intake. I asked the maintenance chief about it and he said it was a high-time engine, but it wasn't consuming too much oil. A little light came on in my head and

# Deja Vu

## All Over Again

reminded me of a time almost two years before when I saw a similar gripe. I was flying with a senior O-4 pilot and when I questioned him, he said it was good to go. So when my pilot questioned me, I replied, "We're good to go."

Preflight was normal and I didn't notice any oil in the intake. The duct diver said the engine was fine so we manned

up. The start sequence went without a hitch and we soon taxied to the duty for takeoff. As we received our takeoff clearance I reminded my pilot that we would run the engines up to 85 percent for the high-power wipe-out since we were too light for a full power turnup.

Immediately upon runup the cockpit filled with dense, acrid, blue smoke. The pilot returned the throttles to idle and the smoke dissipated. *Deja vu.*

This was exactly what what happened two years ago. So I said to my pilot, "I've seen this before. That oil in the intake is probably just burning off. Let's try it again. It will probably go away." That was exactly what the senior pilot told me two years earlier. He was experienced and he knew about these things, right? So we tried it again.

There was still smoke but it was not as dense. My pilot asked me what I thought and I once again recalled the incident two years ago. We took that airplane flying and everything turned out fine. I also thought that we would be flying right here at the field. Any problems and we could land on the next pass.

Along with all the reasons to

go flying, the one thing I couldn't get out of my mind was how uncomfortable I felt taking that airplane two years ago. Now I was in a position to make that decision. I came up on the radio and canceled our takeoff clearance with the tower and told my pilot we were going to taxi back to our line to have our professionals check it out. We called a powerplants trouble-shooter and he had us run the engines up one at a time. We were still getting smoke from the port engine. When the trouble-shooter opened the port engine bay he quickly had us shut down.

When I inspected the engine, I saw that the first and second stages of the compressor were covered with oil and that the engine bay looked as if someone had taken a

hose and sprayed it with oil. The engine definitely needed to be changed. All of this mess with no indications of low oil quantity or pressure. We may have had to shut the engine down because of oil starvation if we had gone flying.

The moral of this story is experience is a great teacher; but it isn't foolproof. The data base we all fly around with is a great tool for supplementing critical decisions. However, just because something worked in the past doesn't necessarily mean it was the right thing to do (we've all had our share of delta sierra evolutions). As an old CO once told me, if there is any doubt there is no doubt.

Lt. McCreary is a first-tour BN with VA-145.

**So I said to my pilot, "I've seen this before...."**



# Windshear on Final

By Lt. Kirk F. Baldin

I had just rogered a SIGMET advisory from approach control that warned of high southwesterly winds for my op area.

“Odd,” I thought, “that they should be from the southwest and not the northwest, characteristic for this area and what I had been experiencing all day.” I was finishing the last hour of our pilot-proficiency flight and I was comfortable that my aircraft could handle anything.

With radar vectors to an ILS final at Fresno International, I figured this practice approach would be just like the others I had done all day. Above 2,000 feet, the weather was CAVU; however, the field had just gone IMC because blowing sand had reduced visibility to one mile. The absence of convective weather, which is normally associated with windshear, let these subtle clues in weather patterns go unnoticed. I did not

expect any surprises from these seemingly benign weather conditions.

After clearance for the approach, we began to pick up the glideslope about seven miles out. We had put the approach flaps and gear down. Descending through 3,000 thousand feet, it was obvious the blowing sand would reduce our visibility substantially in the next thousand feet. Confidently, I rogered the switch to tower for clearance to land. My copilot, who was flying the approach, asked if I had felt the surge of strong wind and strain on the control surfaces he had while passing 2,050 feet MSL. I hadn’t and reassured myself with a glance to the second pilot sitting behind my copilot. It was only turbulence, we assured ourselves.

Seconds later, passing through 2,000 feet MSL and entering the area of blowing

sand, a giant fist of wind hit us, pushing us toward the ground at an alarming rate. Dangling in our straps, the ground rushing towards us, we tried to recover. A sinking feeling overcame me. We had encountered a severe case of windshear.

I took the controls— maximum power and nose up. I completely zoned out on all instruments except my attitude indicator as I forced the nose to

**Seconds later, passing through 2,000 feet MSL and entering the area of blowing sand, a giant fist of wind hit us, pushing us toward the ground at an alarming rate.**

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maintain a 10-degree to 15-degree climb. Confident that this instrument alone was going to save us, I felt the aircraft buffeting heavily along the yaw axis. The other two pilots reported the airspeed indicator was 30 knots below target airspeed, VSI in excess of 2,000 fpm, and altitude 200 feet to 300 feet low. We recovered at 2,200 feet MSL and 140 KIAS approximately 10 seconds later—probably the longest 10 seconds of my life.

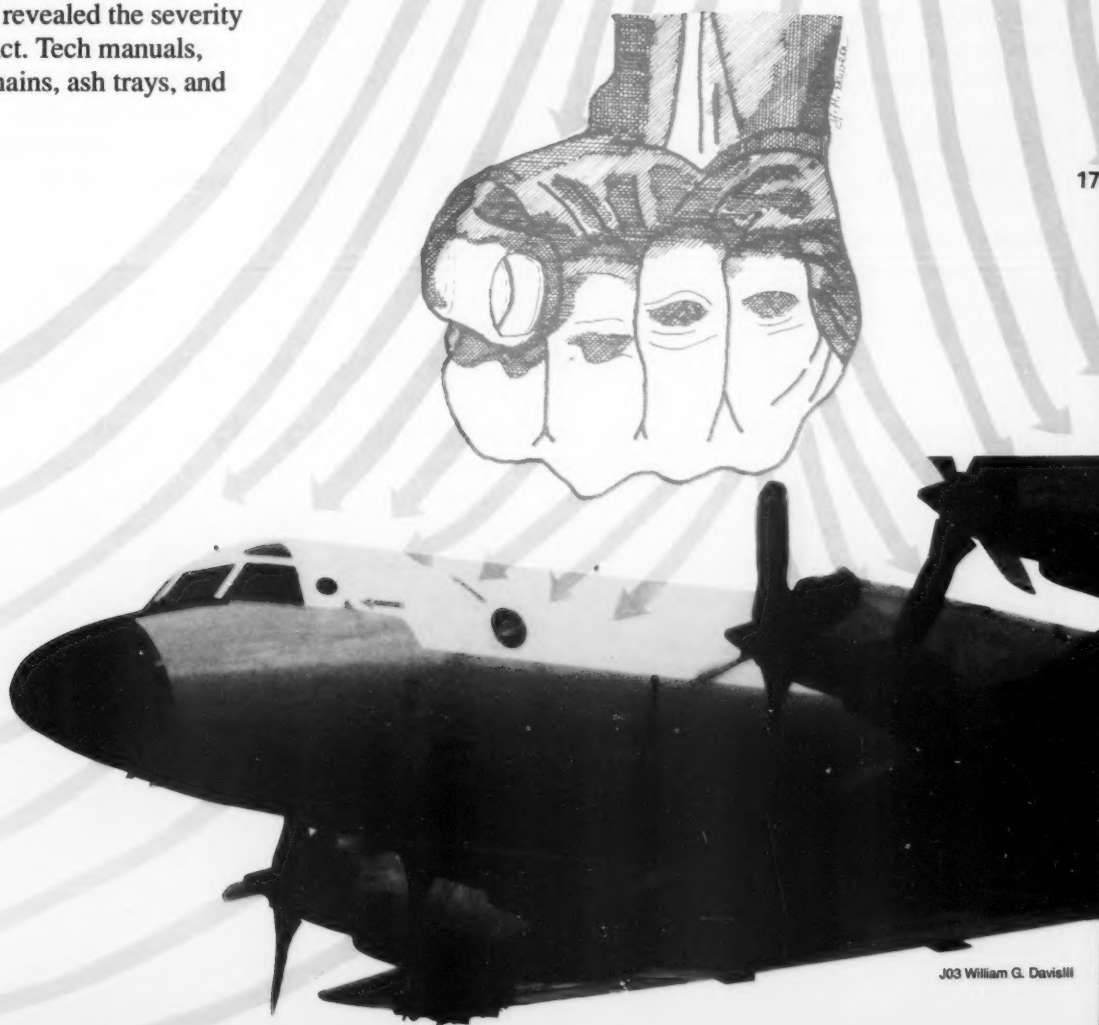
An interior inspection of the aircraft revealed the severity of the impact. Tech manuals, tie-down chains, ash trays, and

racks dislodged. Nothing remained in its storage place. I half expected to see sheared bolts that should have been holding electronic equipment in place.

After our RTB to homeplate, I made a follow-up phone call to the airport. Tower said that no other aircraft had experienced any adverse weather on approach, once again supporting

the claim that windshear is a short-lived phenomena that skirts prediction and makes it the most hazardous of weather circumstances. Until there are better ways to more accurately predict windshear, alertness is our only ally. Windshear is dangerous and at low levels it can be deadly. I shudder to think of the outcome had we been on short final. ◀

Lt. Baldin is a P-3 pilot with VP-46.



# RESCUE

By Lt. Michael L. Williams

No rescue mission is perfect. There is always something that could have been done differently. Ours was not unique. An aircrew was down. We responded immediately.

Our SH-3H Sea King (611) was spinning on *USS Forrestal* (CV-59) waiting to launch in search of a friendly submarine that was lurking in the shadows. A call came over the radio. I knew the familiar voice. It was the captain.

"Your mission has been changed. Proceed 190 miles northwest to aid other rescue units on station."

An A-6 had gone down in the

## 611

water. We got a series of lat-longs for the search area. Fortunately we had picked up a Global Positioning System (GPS) unit before takeoff. We would fly out a great distance and accurate navigation was paramount since fuel was not available en route.

My grim anticipation of low fuel became reality as we arrived on

scene after crossing some large mountains. If my calculations were correct, we had maybe 30 minutes of search time before we would have to bingo to shore. Luckily, I heard my skipper on the radio roughly 45 minutes out saying that a ship was bustering toward our position and should be within 50 miles in about 45 minutes. I breathed a sigh of relief and recalculated my bingo fuel. We'd have 65 minutes, 70 minutes tops, on-station before we'd have to leave station for fuel.

After contacting the other aircraft on the scene, we established a datum and began our search. Roughly five

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Rick Mullen

...I heard both of my crewman yell,  
"Four o'clock sir, about a half mile!"



minutes into the search I heard both of my crewman yell, "Four o'clock sir, about a half mile!"

I turned my "nimble" H-3 in the direction of their call and saw a wonderful sight. One of the downed airmen was in his raft waving frantically. We positioned ourselves over the survivor to make the pickup. Although the rescue was uneventful, it did take nearly seven minutes to get the BN onboard.

After hoisting him in, assessing his injuries and relaying all essential information back to the CV, I asked the BN the most important question, "Do you know where your pilot is?"

"I'm fairly certain. Yes!" He replied emphatically.

The BN, apparently still in some shock and feeling little pain, sketched a map of his downed pilot's assumed position. It turned out to be only a quarter-mile or so to the west. We proceeded there after letting the E-2 Hawkeye (the SAR on-scene commander) know our plan.

Arriving at the new datum we began a trackline search. However, the BN's initial shock was wearing off and he was now obviously in considerable pain. Our fuel was also getting low. Decision time! Do I head toward the nearest ship which is now 75 miles and closing or do I continue the search for the missing Intruder pilot? After asking the BN if he could handle another 30-45 minutes of flight time, I decided to stay with the search and turn over with my relief who was now only 10 minutes away.

A few minutes later doubt began to race through my mind as I realized that the BN may have been wrong.



PH3 Dennis Boykin IV

After all, he had been in shock when he told me of his pilot's position. We continued to search desperately, along with four fixed-wing aircraft and three other helos until my relief arrived on station and picked up the search. Then, we busted to the carrier and landed 20 minutes later.

An intensive search for the missing pilot continued nearly 29 hours with air and surface units. He was never found. The BN is currently recovering from the injuries he suffered during the ejection.

In retrospect, what should we have been done differently? Close coordination between SAR aircraft is difficult, but after passing the

information I received from the BN to all other SAR assets, I should have stopped searching. There were other aircraft on station that could have picked up the pilot. The injured navigator knew nothing of his own injuries. Why did I take his word that he felt fine? The excitement of the situation can override common sense. The BN is fine now but how did I know the extent of his injuries after a 450-knot ejection!

Don't take chances. Don't risk another man's life in the vain hope of saving another. Decisions made during an emergency are never easy; learning from your mistakes and from others is. ◀

Lt. Williams flies the SH-3H with HS-15.



Left to right: Capt. K.T. Kelley, USMC; Cpl. P.A. Morrison, USMC; Sgt. J.M. Littleton, USMC; 1stLt. S. Kokolios, USMC

Capt. K.T. Kelley, USMC  
1stLt. S. Kokolios, USMC  
SSgt. J.M. Littleton, USMC  
Cpl. P.A. Morrison, USMC  
HMH-462

Thunder 54 launched from Indian Springs AAF for an aerial gunnery shoot at Range 63A, five miles east of the airfield. After 50 minutes, at 200 feet AGL, Capt. Kelley (HAC) took control and noted that he couldn't maintain balanced flight.

Troubleshooting revealed that left pedal authority was restricted, and the right pedal provided no yaw control.

The crew cancelled the gunnery shoot and Capt. Kelley determined that the right-pedal rig was out of limits. The crew decided to terminate the flight and return to base. First Lieutenant Kokolios (H2P) took control while Capt. Kelley reviewed NATOPS procedures and investigated the malfunction with the aircrew.

When they arrived over the field, the HAC took control and made a left-hand approach at 200 feet AGL and 50 KIAS on downwind. Turning on final with 6-9 degrees nose up, the helicopter began yawing left as Capt. Kelley adjusted the power setting for a fail-

ure of the rudder-control system. On touchdown, the aircraft again began yawing to the left but Capt. Kelley overcame the movement by using mainwheel brakes and cyclic displacement in the opposite direction.

Postflight inspection revealed that the right rotary rudder cable had snapped, and that a pulley showed a small burr, which may have caused a sawing action on the cable.

Capt. G.W. Gaff, USMC  
VMA-231

Moments after taking off, Capt. Gaff thought his AV-8B's main generator had failed. He tried to reset it without success. Next, he tried to start the auxiliary power unit (APU) and got a momentary flicker from the warning and caution lights panel.

At the same time, Capt. Gaff noticed that the throttle wouldn't respond. He switched to manual fuel and regained engine control. He kept trying to light the APU.

He turned downwind and lowered the gear with the emergency blow-down system because there wasn't enough voltage to extend the gear normally. As he rolled out, his aircraft's electrical system went dead.

Postflight inspection showed that the power-distribution panel assembly was badly burned.

Because of the nature of electrical fires, total electrical failures can occur in seconds. The AV-8B's primary fuel-control system requires electrical power. With an electrical failure, the pilot must select manual fuel to regain control of the engine. However, this switch requires a minimum amount of voltage, which is usually available through the battery.

If there is an electrical fire, the battery can be cut off, making the manual fuel switch useless, resulting in complete loss of engine control.

If Capt. Gaff had not switched to manual fuel when he did, the Harrier would have been lost.

Because the distribution panel is located in the main wheelwell, he had no idea that he had an electrical fire until after he landed. NATOPS does not fully address this emergency, and Capt. Gaff's experience as a PMCF pilot allowed him to avert a disaster.





# BRAVO ZULU



Left to right: LCdr. Tom Rietmeyer, Lt. David Weber

LCdr. Tom Rietmeyer  
Lt. David Weber  
VF-31

Lt. Weber (pilot) and LCdr. Rietmeyer (RIO) launched from USS *Forrestal* (CV-59) on a 2 v 2 DACT mission off the coast of Egypt. On the first intercept, Lt. Weber climbed to 27,000 feet and accelerated to 400 knots. At 12 miles, he pulled his F-14's nose to the bogey for a right-to-right pass. At the merge, the pilot rolled 120 degrees and pulled 5.5 Gs for a two-circle fight.

LCdr. Rietmeyer heard a cracking sound and looked to see if his canopy seal had broken. Lt. Weber also heard the noise but thought it was aircraft buffet.

After 360 degrees of turn, the bogies made the knock-it-off call. Lt.



Weber leveled his wings but felt that his aircraft was sluggish. He and his RIO checked the right wing and saw that the main inboard flap was *standing up on one end at a 45-degree angle above the wing.*

They declared an emergency and turned toward the ship. Lt. Weber and LCdr. Rietmeyer checked controllability at altitude including a practice approach and waveoff. They then recovered with a no-flap OK 3-wire. An EI will determine why the flap failed.

Lt. Thomas F. Furtner  
2ndLt. Joseph M. Murray,  
USMCR  
VT-6

After takeoff from NAS Whiting Field, Lt. Furtner and his student, 2ndLt. Murray, raised the gear of their T-34C. The aircraft's left mainmount remained in an unsafe condition. Lt. Furtner started to climb to the emergency orbit pattern, requesting a visual check by another aircraft. The second trainer's crew confirmed that the left main gear was down but not locked, and that the other gear were up.

Lt. Furtner and 2ndLt. Murray completed unsafe-gear procedures, but the left main was still indicating unsafe.

After several practice approaches, Lt. Furtner landed the aircraft right of

centerline, holding the left wing up until reaching approximately 50 KIAS. He then slowly lowered the left wing. As expected, the left gear collapsed during the rollout; however, the aircraft sustained minimal damage.



Left to right: Lt. Thomas F. Furtner, 2ndLt. Joseph M. Murray, USMCR

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# I Think I'll Wait for the



## Smoking Cessna to Land First

By Lt. Jon Hanson

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**L**ike many NFOs, I had received my private pilot's license and was fast on my way to getting my civilian instrument rating. I figured with my experience in the S-3 it would be a snap. On one of my last instrument flights before my check ride, I found out how handy my Navy training would be—not on instrument procedures but on emergency procedures.

I was on my long cross-country (in civilian terms, that means greater than 250 nm) in a Cessna 172RG. I had left NAS North Island in the late afternoon to arrive at Santa Barbara Municipal in the early evening. I had two passengers.

Everything was going fine as center handed me off to approach at 5,000 feet. At this point my safety pilot in the right seat said he could smell wires burning. I was not too worried but decided to tell approach that we might have a problem. I told them we would be shutting down all radios and electrical equipment and shooting a straight-in visual approach to our destination, still 30 miles away.

Approach simply replied, "Roger."

Immediately after securing the electrical power I



looked over and saw flames darting out behind my right seater's rudder pedals. At this point I wished I had on my dirty old nomex flight suit. I now knew that an easy nordo visual approach was going to be somewhat more difficult with my right-seater literally

putting fires out in the cabin.

Because of the smoke and flames I knew that this aircraft was not going to make the 30 miles to Santa Barbara. I immediately put the aircraft in a 50-degree nose-down left slice turn at max airspeed. I knew that NAS Pt. Mugu was my emergency divert at this point in the flight. Passing through 2,000 feet, the cockpit became so engulfed in flames and smoke my right-seater had to open his door and lean his head out to breathe.

As I passed through 1,500 feet, still at max knots for the mighty 172RG, I felt I'd made the field and needed the gear. Unsure if the gear would come down without electrical power, I pulled back hard on the yoke to get near gear speed and put some G on the aircraft to allow the gear to free fall. Looking out the window I could see the port main mount down but had no indications in the cockpit to tell me that the gear was locked.

I then decided to accelerate to all it would give me and pointed the aircraft at the base leg. I yelled for my right-seater to check for traffic as I rolled into the groove, and to secure the fuel to avoid a larger fire on deck.

By now, the smoke was getting so bad on my side that I also had to open my window and stick my head out and look through the glow of the fire to see the field. I found out later that at the same time I was

approaching the numbers, tower had cleared an F-14 for takeoff on the cross-runway. The Tomcat replied, "I think I'll wait for the smoking Cessna to land first." This was tower's first indication that I was inbound. Tower hit the wave-off lights. I felt my situation was a valid reason to ignore the lights. We set down at 120 knots (twice the normal landing speed of the C-172). I went for the brakes, only to find out the fire had burned through the brake lines and the nosewheel steering.

I was now alone for the ride as the aircraft rolled down approximately 1,000 feet of runway before veering off left of centerline. The aircraft then ran over the runway edge light, which sheered off the nose gear, causing a loss of hydraulic pressure. The main gear collapsed, which in turn brought us to a quick sliding stop in the grass. We quickly exited the aircraft and ran behind it about 100 feet. Then, we turned around and watched the entire cockpit erupt in flames just like in the movies.

From start to finish, all this action happened in just two minutes. I had learned from my Navy training that when an emergency happens, you have to react immediately. An emergency is not the time to panic and start wondering what to do. You need to mentally prepare yourself before each flight. If I had not planned ahead with emergency divers, or if I had panicked in this critical situation, I would probably not be sitting here today writing this article. ◀

Lt. Hanson flies S-3s with VS-21.

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# Who Didn't Pay the Electric Bill?

By Lt. Ronnie Robinson

As an SH-60B driver with more than 600 hours in model, two-and-a-half months underway as helicopter aircraft commander, and within a week of my one-year anniversary as a HAC, I felt I could handle the mission and, if necessary, any emergency. Squadron training kept us all proficient. My crew and I were prepared for anything, right? Well, almost.

With our det temporarily shorebased at NAS Cubi, my crew and I were on our second local night hop to maintain night proficiency. The weather was lousy as usual for this time of year, but nothing serious enough to prevent us from getting some good actual IFR flight time and badly needed precision approaches.

Approach wasn't busy tonight and we were soon handed off to the final controller at about 10 nm out and on final for runway 7. We were solid IMC and getting pounded by a driving rain when the controller told us to descend at about eight nm. As I did so, the controller started to read the instructions for lost comm and missed approach. However, he got as far as "Instructions are as follows" when he abruptly cut out.

"Perhaps he's new and is rereading the instructions," I thought. After 10 seconds without a word, I called, "Final controller, 45" several times. There was no response. No controller meant no descent. I immediately pulled in power and engaged barometric-altitude hold.

Next, I called up approach. Nothing again. What was going on? As my copilot quickly punched up tower, I

silently reviewed our options. "OK, Gramps, you're lost comm," I thought, "so climb to 6,000 MSL to clear the mountains that surround you and do a point-to-point to the IAF for the TACAN to runway 25. Sounds good, but not so fast."

Scanning down, I unhappily saw red flags on my TACAN at the same time I heard tower responding to my copilot's call.

"45, Tower. Sir, we just had a total power outage down here. We've lost everything except tower. I'm on battery power and don't know how long it's gonna last!"

I couldn't believe it! We were IMC, at night, in the mountains, with no GCA, no TACAN, no airfield lights, no divers, and probably very shortly, no one to talk to! I'd had ships flake out on me, but an entire airfield? It was definitely time for plan B.

My copilot and I quickly concluded that our only viable option was to get

out over the open ocean about 15 nm to the east. Then we'd descend to VMC (hopefully) and pick our way back to the still fairly unfamiliar homeplate using radar and our eyeballs. "Wait a second," I told myself. "Could it be? Yes! Out of nowhere . . . VMC! Hot damn! Crank in NATOPS limit AOB to avoid the monstrous rain cloud directly ahead and we might be canceling the scenic ocean trip. I've got city lights in sight on my right!"

Some more yanking and banking, plus an almost autorotative descent to remain VMC, and my copilot told me he had the unlit field in sight. Sure enough, there to the left was a large black area where the field should be. A quick call to tower, a flip of the searchlight switch, and within seconds we were back safely on deck.

"Hey, Gramps," I congratulated myself, "happy one-year HAC anniversary!"

Lt. Robinson is the operations officer for HSL-45's Det 5.







Peter Menck

# CHEAP

## Lessons

By Lt. S. Laughlin

**I**t was another glorious day at sea, 75 nm off the coast from NAS North Island. I was a nugget two months out of the FRS, preparing to launch as plane guard for the upcoming event. The OAT was in the high 80s with a resultant density altitude of over 2,000 feet.

In the HS community, regardless of who is the aircraft commander, the pilot who will be in the right seat usually gives the crew brief. The left-seat pilot should punch the charts in NATOPS to determine power required vs. power available for various flight regimes. For the initial takeoff, the most important considerations are the power needed to hover in ground effect (HIGE), and out of ground effect (HOGE). Between fuel, crew, and ASW mission configuration, we were approaching our max gross weight of 21,000 pounds. I made a mental note of this, especially since our power situation could easily become critical with such high outside air temperatures.

I finished my brief and began reviewing the aircraft's log book while my HAC punched the charts. When we were ready to walk, he hadn't told me what he'd come up with but more importantly, I didn't ask.

The preflight, engine starts, and rotor engagement went off without a hitch. During the pre-takeoff checklist, I missed another opportunity to discuss power requirements and to double check the PCL gouge charts to see how much wind over the deck we'd need for lift.

The LSE signaled for chocks and chains, and we began the final takeoff checklist. Something seemed to be missing. We were using the checklists, and had hit every item. My HAC was very experienced and couldn't possibly have left anything out! Right? Sure! No worries mate!

"Gauges are clean and green," I said. "I have the controls, and we're lifting." As I pulled up collective, I noticed the aircraft felt very sluggish and cumbersome, as if it didn't want to fly. Well, there was a solution to this problem—more power! I gave the collective a good yank to pull us smartly to a 15-foot hover, which was sure to impress the deck crew.

Over the next 10 seconds (which seemed more like 10 years), I was the one who quickly became impressed with what it feels like to be strapped into an out-of-control, screaming, fire-breathing piece of rotary-wing machinery in close proximity to lots of other aircraft laden with fuel and weapons.

As I began a rapid spin to the right, I applied left pedal

commensurate with the rate of turn. It quickly became apparent that this would not be sufficient as my foot reached the stop and I was still not in control. Out of the corner of my eye, I could see colored shirts scattering in every direction as the island (which just a moment before was at my 3 o'clock) passed in front of the windscreen.

I was busy reacting to my predicament, and out of necessity had my eyes outside of the cockpit the whole time. I didn't need to look at my gauges to tell me that my engines were at topping power. The scream from the transmission input shafts above my head was evidence enough.

I abruptly reduced power to reduce torque and stopped the clockwise rotation after passing through 120 degrees, relative. By this time my HAC was on the controls saying many unprintable things. The power reduction had done the trick and we regained tail rotor authority and pedal-turned back to our original spot. After another look at the gauges, he transitioned to forward flight using the long deck run from spot four as a ground-effect cushion.

As we passed over the deck edge, I looked through the chin bubble and thought that the water coloration looked odd. It was light blue mixed with white swirls kind of like ... a ship's wake!

As we completed our turnout, my suspicions were confirmed. The flags above the bridge were blowing forwards! The ship had been backing down the whole time! The puzzle was complete, and the picture was crystal clear.

Contrary to what many people believe, helicopters are not completely magical machines. They do have operating limitations and very stringent wind requirements for launch and recovery. The importance of these things were brought home to me more forcefully than any lecture could have provided. I never did check the wind vane by the bow cats, nor did I ask the Boss. That's what was missing!

As for the tendency of junior aviators to rely on the experience of seasoned pilots, I relearned the importance of crew coordination and that none of us are infallible. As my skipper is fond of saying, "It's best to learn the cheap lessons."

*H-3 pilots also need to remember collective-to-yaw coupling. NATOPS says, "If a collective pitch-lever position, added to the rotary rudder-pedal position, creates a rotary rudder-blade angle equal to the system limits, additional collective pitch-lever motions to exceed the limits is only possible at the sacrifice of rotary rudder-pedal position."—LCdr. John Burgess, NAVSAFECEN H-3 analyst.*

Lt. Laughlin is an SH-3H pilot with HS-4.

# Trapping Without Flaps or Slats:



**V**ery early in the Persian Gulf crisis, NK 606 needed a profile "C" functional check flight after a series of flap problems. The weather was typical for that time of year in the Gulf of Oman: hot, humid and hazy. Because it was only a profile "C", and because the aircraft could be needed for real-world tasking at any time, I elected to fly the hop with three pods on the airplane.

26 As luck would have it, the TACAN failed and the INS dumped completely off the cat. Well, it was still VMC more or less. After climbing overhead and burning down, we began the checks. Everything went normally until I selected flaps and slats down electrically. The aircraft developed a stiff right roll, and the flaps indicator barberpoled.

I immediately selected flaps up according to NATOPS and everything felt as though it came up clean, although the flaps remained barberpoled.

Now what? NATOPS does not recommend a no flap/no slat approach to the ship if a divert is available. We did have a divert, but putting the aircraft in there could very well mean that it would be lost for much longer than was prudent in the current circumstances. It was much better to get it onboard where it could be rapidly repaired.

I asked the Boss to put somebody on us for an airborne check and soon the oncoming S-3 tanker joined up. Consultation with maintenance person-

nel and some initial uncertainty as to whether the ship could generate enough wind in the calm conditions for a no flap/no slat approach lead to our decision to try to get 20-degree flaps/slats down using the hydraulic system. Previous problems with the aircraft's flaps had all occurred with the flaps past the 20-degree position. Slat and stab shift functions had all been normal.

Perhaps there was a bind in the starboard flaps somewhere between the 20-degree and 30-degree positions. I felt this was worth trying to avoid the unattractive alternatives of diverting or making a no flap/no slat approach. Unfortunately, when we tried it the roll developed immediately and the S-3 reported that the starboard outboard flap had not moved. The aircraft was controllable, but not easily. We selected flaps and slats up.

We were now down to bingoing into a foreign field with no support and putting a valuable asset out of reach at a critical time, or coming onboard with the flaps and slats up. We began working the numbers in both cockpits while the squadron rep coordinated our recovery with the air ops officer, the Boss, and the captain. We figured that by dumping down to 3,500 pounds of fuel, we could get the aircraft's gross weight down to 39,500 pounds, and the approach speed down to 165 knots.

This would give us enough fuel for several passes, after which we could still tank off the S-3 and proceed with him to the divert field if I couldn't get onboard.

Consulting the EA-6B Recovery Bulletin revealed that the maximum approach speed for a 39,500 pound, no flap/no slat Prowler is 134 knots. The minimum wind required over the deck would, therefore, be 31 knots (165-134=31.) The ship was able to come up to 34 knots, which gave us a 3-knot margin.

After a final discussion in the cockpit, I decided to go for it. I must admit that I was a little apprehensive, even though I had more than 2,000 hours in Prowlers. I had never heard of a Prowler making a no flap/no slat approach to a ship, though I was sure it had been done before. Of course, I'd done them ashore, but this was different. We worked through the numbers one more time, and stepped carefully through the checklists. Visibility had continued to deteriorate so we ended up flying a case III approach. I stayed on the needles until the ball call, making sure I had a good start. It seemed easy after that. The aircraft felt smooth, responsive and stable. There was no perceptible burble, and I wasn't on the ball long enough to screw it up. A good start resulted in a good, if surprisingly

By Cdr. J. J. Flanagan



# You Can Do it, But Carefully

quick, finish.

I certainly don't advocate no flap/no slat approaches to the ship in favor of a practical divert field. NATOPS recommends diverting if practical for any no flap configuration, and I would have done so if I thought it was *practical* under the circumstances.

A good, well integrated crew that is used to working together and can contribute to solving a problem without competing for time and attention or duplicating effort is a godsend, especially to a pilot who is experiencing aircraft control problems.

Flying a profile "C" check flight with stores from the ship should be avoided whenever practical. Often, operational requirements drive us into doing "test and go" flights for "C" profile FCFs. Keep in mind that three pods represent 3,000 pounds of fuel or 4.5 knots on final.

Even with three pods, two empty drops and zero ambient wind, a conventional carrier can get a no flap/no slat configured Prowler onboard.

According to the Recovery Bulletin,

up to a gross weight of 43,000 pounds, the limiting-factor airspeed for a Prowler no flap/no slat approach is actually based on a landing gear limit. (The higher the speed, the higher the aircraft's vertical velocity.) Our 39,500-pound airplane had an arresting-gear limit of 142 knots and a landing-gear limit airspeed for a 3.5-degree glide slope of 134 knots. At 43,000 pounds gross weight, the hook limit and the landing gear limit are equal at 134 knots, and above that weight, the hook becomes the dominant factor.

When the landing gear limit is the dominant factor the published maximum speeds in the EA-6B Recovery Bulletin may be considered calculated approach speeds, not absolute top-end limits for a given weight. Normal deviations in glide slope and airspeed control are factored in, but you must be careful not to make a big comedown to land, or to land on one wheel as a result of a late lineup correction.

When the hook limit is the dominant factor, the airspeed derived should be considered the absolute maximum,

so gross weight and wind should be manipulated to allow a slightly lower calculated approach speed. All the published speeds have been extensively tested with real airplanes and arresting gear.

The brief approach, itself, was not difficult. It was, in fact, quite comfortable (except maybe for the long, fast wire run out). Trapping onboard ship in a Prowler without flaps or slats is not difficult or particularly hazardous, provided proper consideration is given to gross weight and wind over the deck requirements. It is not preferable to a good divert field, but it is certainly a better choice than a divert to a marginal field, or one with poor weather. ◀

*Although landing a Prowler onboard a carrier without flaps or slats might be an option, as the author points out, it is critical to know the aircraft and ship limits. Knowing your limits is paramount.—Ed.*

Cdr. Flanagan was the CO of VAQ-139 at the time of this story. He is currently assigned to the pre-commissioning unit of USS George Washington (CVN-73).





**W**hile we are conducting WESTPAC operations onboard a forward-deployed ship, the 1MC sounds for an incoming helo.

"Flight quarters, flight quarters, all designated personnel man your flight quarters stations. Wear no hats topside, throw no articles over the side. Now flight quarters."

Immediately, the ship springs to life. The flying squad mans the fire-fighting equipment. The flight-deck chief, LSE, and chainmen man their stations and begin their flight-deck readiness checks. The helo detachment waits on deck, standing by as a back-up hose team. The helicopter control officer (HCO) is in the tower, and gets the "manned and ready" from the flight-deck chief. Passing this information to the bridge, a green deck is granted and the ship is ready to recover the helo.

The winds are perfect and the seas are calm. A dark grey SH-3 Sea King crosses over the deck edge entering a hover. Bright silver stars on a VIP placard let the whole ship's crew know that "a big kahuna" is arriving. The pilot makes a 4.0 landing. The chainmen dash in and wrap her up. The crewman gets out and pins the gear. They are now ready to disembark the "big kahuna," completing another safe mission onboard USS Big Daddy. But wait! Maybe not.

I have described the typical scenario for ensuring the flight deck is ready and completely safe for the recovery of an incoming helicopter. But what often happens after the helo arrives and is safely secured to the deck?

By AEC Michael P. Heape

# When Big Daddy and the Big Kahunas Meet, or Cranials? We Don't Need No Stinking Cranials!

approach/April 1992



I've been onboard Big Daddy through the "Persian Excursion," and a major WESTPAC amphibious exercise. I've seen many people arrive, ranging from Commander, Pacific Fleet to a new seamen reporting for duty. When people of relative insignificance fly onboard, things actually proceed very well on the flight deck.

The passengers disembark the aircraft and are directed to the master at arms (MAA) or aircraft transportation officer (ATO). When the "big kahunas" start coming in, however, safety infractions often rear their ugly heads.

What is the number one hazard to personnel on the deck? The incorrect wearing or disregarding of safety equipment, specifically, the cranial helmet (HGU-25). I've seen infractions range from personnel exiting the aircraft without their goggles down or chin strap fastened, to personnel leaving the cranial on the aircraft. Because

these people are briefed before they embark the aircraft on the proper use of the provided equipment, I can only surmise that they watch the president board his VH-3 on television without any head protection and figure that's how its supposed to be.

OK, so we don't send them off the pointy end in zone five afterburner on our ship. However, the flight deck is just as dangerous on a small-boy as on a carrier. The HGU-25 cranial helmet provides the best protection against head injury, hearing loss, or eye injury from foreign debris.

*No one is immune to the dangers of the flight deck. It is the safety officers responsibility to ensure that everyone on the flight deck is briefed and wears his safety gear.—Ed.*

AEC Heape is the LCPO of HC-1's Det 6.

**When the "big kahunas" start coming in,  
however, safety infractions often rear their ugly head.**



# Helmet Fires...

30



By LCdr. Ron Thompson

***FAC: You see the darker brown spot next to the dirt road?***

***Crew: Yeah, maybe.***

***FAC: Good. Now go one click south and left, and there's a lighter spot.***

**H**ave you ever scared yourself so badly that you couldn't yuck it up at the club about the event for months afterward? I'm not talking about the flagrant violation of written rules that you might hide to keep the heavies off your back, but the normal event that you brief and fly, and then turns abnormal at the last moment.

It wasn't a dark or stormy night, but a crisp and clear day on

a dawn patrol, watching the sunrise play on the mountain tops and hoping for a noise complaint to prove that the civilians knew that someone was working this early. The mission was close air support on an army range with Air Force FACs. How's that for interservice training? I was a newly designated section lead. My BN and I had recently completed our first cruise with plenty of salt flaking off our flightsuits. Our wingman was an experienced CAT I crew with two cruises, and previous experience at this range; they had set up the exercise.

We had spent the previous evening making charts, discussing procedures and comm, and generally preparing for the next day's event. Our early brief had several interruptions by the wingie to clarify specific CAS procedures for the exercise. In fact, the crew interrupted the brief enough times to make me wonder who was leading whom. But the flight

# *in the Dive*

proceeded smoothly through the check-in breakup and the FAC brief for our individual ingresses.

On the run-in from the IP, we had to cross numerous, closely spaced perpendicular ridges. We used a moderate run-in altitude to maintain communications with the ground-based FAC to a pop and 10 degree roll-in.

We were in the dive, pointed downhill, when the fun began. With no marking devices to designate the target, the Air Force FAC began a UHF auto-babble (very similar to a comm jam environment). The calls went like this.

FAC: You see the darker brown spot next to the dirt road?

Crew: Yeah, maybe.

FAC: Good. Now go one click south and left, and there's a lighter spot.

Of course, this UHF jam was broken by a very frantic ICS discussion of where we thought the FAC might want our 25 pounds of blue death. Meanwhile, our Intruder was pointed at the ground and rapidly passing 450 knots. Did I mention that the target area was on the near side of

one of those perpendicular ridges?

As the ground filled the windscreen, a little voice in the back of my head started to get very loud and I buried the stick in my lap. The result was a worm-raping bottom-out followed by a very late abort call from the FAC as I hauled back on the stick.

How low did we go? I don't know; that statistic wasn't high on my priority list at the time. I was not going to die with my head down checking numbers for the mishap board.

We finished the sortie with a wagon-wheel attack. That way, we could work off each other's smoke, since no one in either cockpit could figure out exactly which little dirt hill the FAC wanted our bombs to hit.

A quick discussion on crew responsibilities followed. In this community we practice the talking altimeter as much as possible, depending on type of weather, weapons, target, and delivery profile. The idea is to keep one set of eyes in the cockpit, because an A-6 HUD is only in some engineer's imagination.

Let the expert lead the flight.

Qualifying junior crews and letting them exercise their quals is important, but sometimes it's safer to let them fly wing.

Brief your abort criteria (besides NATOPS airworthiness), so each crewmember knows when it's time to bail out. Don't assume that someone is checking the gauges. In a UHF-rich environment, the ICS can be overrun and the helmet fires begin.

Finally, watch your first-cruise experienced aircrews. Salt-encrusted experience, undampened by real-life fears, can get in the way of proper, detailed planning. Always remember that the guy on the ground may see the target area clearly, but he may have forgotten that it ain't that easy from the air.

I learned a lot that day. I feel comfortable telling this story in my ready room, but you can bet that my mom still doesn't know. Besides, she still thinks I fly that four-seat fighter-bomber A-6, the one that carries the "bombs" with those tiny propellers.

Target fixation isn't the only killer in a low dive. Finding the target can be just as deadly. ◀

LCdr. Thompson is an A-6 pilot with VA-52.

# Letters

## Re: "Seasprite in Trouble" (December '91)

Newport, R.I.—Lt. Finnegan's article brought back many memories. In my not-so-distant past as a fleet pilot and instructor pilot, I liked to fly familiarization flights at NOLF Imperial beach.

In the course of several hundred flights and wardroom discussions, I discovered that many of the pilots with whom I flew were not comfortable with, or good at, single-engine approaches to no-hover landings to a *specific* spot.

Many pilots were content just to get the helo on the pad, never mind the ship's touchdown circle on the deck.

I found out that this lack of comfort was due to a lack of practice. For a variety of reasons, most pilots only get serious about being "on and on" just before their annual NATOPS checks.

As a DLQ instructor, I often asked if my copilot had ever done these procedures to the back of a ship. With one exception, all replied, "No."

Before any of my former skippers get their tail rotors in a twist, I never suggested actually pulling an engine out of "fly." I have suggested that flying the profile, with self-imposed torque limitations, to a no-hover landing, on a day DLQ hop in VMC might be useful.

A call to the tower a couple of bounces before the attempt lets the HCO explain to his OOD, LSE and flight-deck crew what they should expect. Besides letting everyone know what will happen and when, this exercise also shows the deck crew something they probably wouldn't see, and hope they never see, for real.

Here's where Lt. Finnegan's article applies to my story. To the author and his crew, and every other pilot, I hope none of us ever has to fly a real single-engine approach to a no-hover landing. But if we have to, we should have taken advantage of realistic training.

Cdr. Henry H. Brus III  
Naval War College

## Re: December '91 Cover

NAS North Island—As my squadron's NATOPS officer, I ensure that our pilots and aircrew fly by the book. Our top priority is

keeping our people safe and maintaining our aircraft. I was, therefore, concerned when I saw that the LSOs in this photo were not wearing cranials and goggles as required by CV NATOPS (paragraph 2.2). Are LSOs exempt from this rule?

How can we maintain our operational readiness when some people do not have to follow regulations? Aren't their eyes and ears just as important as those of everyone else?

Lt. M.E. Maxwell  
VRC-30

## Re: "Nice Break...Wrong Airport" (November '91)

NAS Whiting Field—"After all, what did you need for a cross-country besides an en-route supplement, charts, approach plates, and the will to go?" Although this quote seems to be a rhetorical question, there is a definitive answer in OPNAVINST 3710.

In the section on Instrument Flight Requirements (assuming IFR filing and flight), paragraph 1321 notes the minimum required articles to be included in Instrument Navigation Packets. These items include appropriate FLIPs and aeronautical charts, as well as a navigation computer and navigation flight log forms (read jet logs).

The salty fleet bubba will often read this section and comment that it does not require *completed* jet logs, just the forms, themselves. Try that logic on the skipper; he might need a good laugh.

Lt. M.D. Cobb  
HT-18

## Re: We Don't Need NATOPS (December '91)

NAS Chase Field—This issue was outstanding. It arrived after a couple of mishap investigation reports (MIRs) crossed my desk. Each report concerned aviators in my age group. The editorial caught my eye. Each of the MIRs had comments about failure to comply with NATOPS by senior aviators (like me?). It gave me pause.

I reviewed my NATOPS procedures and found that I had to study a little harder than I would like to admit. I scheduled myself for an emergency-procedures simulator, and got humbled a bit.

I have encouraged all my COs to read this

issue and strongly recommended that their JOs read it, too.

Keep publishing *Approach*. Your magazine encouraged me to come off top-dead-center. It's an important link in the safety chain.

Capt. K.E. Shean  
Commander, TRAWING 3

## Re: "We Don't Need NATOPS" (December '91)

NAS North Island—I bet that you thought that lowering the interest rates on credit cards to save the economy was a great idea. Hopefully, you wrote your editorial only to elicit a large number of responses. The NATOPS program has not lost its vitality. If you want to revitalize NATOPS, I suggest that you highlight your NATOPS manual in a different color.

Let's face it, studying the same emergency procedures over a 20-year career will never be exciting, no matter how you look at them.

I don't look at NATOPS and see a dormant program; I see a well established program that is part of how we do business. It isn't necessary to return NATOPS to its "preeminent past."

NATOPS was, and is, a great idea that has, along with other innovations, reduced the number of people and aircraft we lose every year. It was never meant to be, and will never be, the final solution to all our problems. It's just one of the many tools we have at our disposal. It would be a crime to reinvent the wheel and scrap a perfectly good program.

We need to place more emphasis on improving aircrew coordination. However, to suggest that NATOPS programs around the fleet are to blame is simply unfair. NATOPS provides the building blocks on which other programs such as aircrew coordination training flourish. Aircrew can coordinate all they want to, but if someone in the cockpit doesn't know what to do when the engine-fire light comes on, all the coordination in the world won't help them.

Lt. R.L. Weinhofer  
ASO  
HC-1



## Re: "Reevaluating 1v1v1 ACM" (December '91)

**MCAS El Toro**—The author relates one of three "near-death experiences" that happened to him in the past six years, the circumstances of which caused him to call for a reevaluation of our goals and operation in the multi-bogey environment.

While I applaud the free exchange of ideas in publications such as *Approach*, the fighter pilots in this squadron take great exception with the author's suggestion that "little realistic training occurs in a 1v1v1" or that "they degrade into unrealistic, slow speed, rear-quarter fights which don't represent any realistic training." Because a properly briefed and executed 1v1v1 offers so much excellent, safe training, a better evaluation is called for.

I will be the first to admit that in a properly flown engagement, some people will take shots BVR to avoid a close-in fight. But how many fighter pilots can honestly say they have never come to the merge in a high-risk scenario with two or more bogies still alive?

Part of the MAWTS-1 Air Combat Tactics Instructor (ACTI) evaluation conducted by MAWTS-1 involves 2v2 visual set-ups from abeam and astern. Clearly, a well-trained fighter pilot needs to be able to fight a hard-turning fight and keep track of multiple aircraft. 1v1v1 ACM is the perfect stepping stone from a 1v1 to a 2v2.

A good start is line abreast, 1.5 nm apart, at 20,000 feet MSL, and at 400 KIAS. The loadout should be AIM-9Ps and guns. After the "fights on" call, each aircraft must turn 90 degrees before shots can be taken. This enables each aircraft to fight the second aircraft while keeping track of the third and without being responsible for engaged comm. The degraded weapon system (AIM-9Ps and no AIM-7s) allows the other aircraft to simulate a fight against an improved Atoll shooter. You are fighting two other aircraft at the same time and if you lose sight of one for more than a moment, call it. There is nothing tactical or safe about a blind lead-turn and if not briefed properly, a 1v1v1 can definitely lead to this. However, there is no need to rewrite the training rules again.

OPNAVINST 3710.7N says that "(ACM) training flights shall be conducted pursuant to a formal training syllabus under direct super-

vision of mature, experienced flight leaders and only after all participants have been thoroughly briefed on the conduct of the flight." This is really the bottom line. A "responsive" naval aviation safety program is not one in which someone tries to make the rules more restrictive as some kind of knee-jerk reaction to scaring himself. ACM training rules are designed to keep aircraft from hitting the ground or each other. They are not, and should not, be intended to cover everything. Use common sense.

A 1v1v1 is hardly the Battle of Britain. An eight-plane hooly over Ram's head is something closer, but that is another story...

Let's brief it right, fly it right and continue to make Navy-Marine Corps ACM training the best. Check six!

Capt. Brian R. McIntyre, USMC  
VMFA-323

## Cdr. Danielson replies:

I am pleased that my article has generated discussion. It shows that it is an issue worth debating as well as being an emotional one. I wrote the article after losing several friends to mishaps in training flights. ACM is dangerous and dynamic and all fighter pilots can sometimes take it for granted as part of their job. I didn't write the article because I was scared; I hoped that someone might benefit from understanding that midairs don't discriminate over experience. I wanted to stress better communications when you lose sight and developing realistic training scenarios.

The article had a misprint. "The final setup would be a visual 1v1v1" should have read "1v1v1v1 with each aircraft having one rear-quarter missile . . ." This translates into a "hooly over Ram's Head"—all four aircraft coming from different directions. The backup mission was a 1v1v1. My article recommended concentrating on improving slow-speed fighting in the 1v1 arena while 1v1v1 fights should use a forward-quarter threat (hence a "realistic scenario"). I should emphasize that a rear-quarter 1v1v1 fight develops lookout doctrine but does not prevent a realistic scenario.

To find yourself in a 1v1v1 with multiple enemies is pure suicide and the decision to "bug" must come early. However, the 1v1v1 scenario does serve as an excellent stepping stone between 1v1 and 2v2. We continue to fly such sorties.

The key point of the article is that no more than three aircraft should fight independently. To do so offers increased midair potential yet fails to develop wingman discipline or mutual

support.

A review of the engagements and tactics used by Iraq in Desert Storm testifies that the enemy may get the first shot off because of ROE differences. A MiG-29 pilot shot down his own wingman because he was flying in auto-acquisition while holding the trigger down and firing on any locked-on target. This incident proves a doctrine in which we must train to realistic forward-quarter threats.

The cause for a safety review stems not from a "knee-jerk reaction", but rather from statistics such as in three out of the four CY-91 COMNAVIAIRESFOR mishaps, aircrew error was a factor. With a reduction in forces, we must be aware of our actions and preserve our assets. A solid briefing is the best place to start.

Cdr. Mark Danielson  
ASO  
NAS Dallas

## Kudos and Safety Rules

**Trophy Club, Texas**—Recently, I got the chance to see a few issues of *Approach*. I hadn't realized how much I missed reading it regularly. As I read the articles, I realized something very profound: naval aviators are capable of doing some pretty stupid things.

I have to take my hat off to you folks; there's no telling how many mishaps you have prevented or how many lives you have saved. If you dwell on some of the bonehead stories you must receive, you'd probably despair. Instead, you have to think about the good you are doing. Your magazine's reputation as a safety publication is still tops, and rightfully so. I just wish more aviators would read it and heed its message.

By the way, here are my rules of flying safety.

1. Don't bust the airplane.
2. Don't bust yourself.

Note: rigid adherence to Rule No. 1 will normally ensure observance of Rule No. 2.

Over the years, after flying A-4s and F-8s in the fleet and reserves, I have added two more rules.

3. If there is no good answer to the questions, "Why did you do that?", the chances are you shouldn't have done it.

4. If there is no good answer to the question, "Why didn't you do that?", chances are you should have done it.

Finally, after checking out as a 727 airline captain, I have one more rule:

5. There certainly must be a time for haste in aviation, but I have yet to find it.

Capt. Robert G. Hoch, USNR (Ret)

**Don't be a rat  
in a maze**



**Be  
a-lert!**

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Poster idea contributed by A02 D. Williams

